

TITLE

HIGH PERFORMANCE AQUEOUS POLYURETHANES AND METHODS OF
FABRICATING THE SAME

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ABSTRACT OF THE DISCLOSURE

Disclosed are high performance aqueous polyurethanes and methods of making the same. The aqueous polyurethane is prepared by prepolymerizing the following components (a), (b), and (c) in the absence of aliphatic or cycloaliphatic diisocyanates; and chain-extending the hydrophilic prepolymer with component (d): (a) 10-40 wt% of an aromatic diisocyanate; (b) 1-15 wt% of a compound containing active hydrogen and a hydrophilic group or a group capable of forming hydrophilicity; (c) 30-80 wt% of a polyol; and (d) 0.1-5 wt% of a chain extender having active hydrogen. The aqueous dispersions of the polyurethane have good storage stability and the dried films produced therefrom possess superior mechanical properties.

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